



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,386	02/06/2004	Junichi Tamamoto	500.43486X00	6779
20457 7590 12/21/2010 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER KUMAR, RAKESH				
ART UNIT 3651		PAPER NUMBER		
MAIL DATE 12/21/2010		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/772,386

Applicant(s)

TAMAMOTO, JUNICHI

Examiner

RAKESH KUMAR

Art Unit

3651

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,5,13,22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6-12,14-21 and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/10/2010 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 1. Claim recites the limitations "contactable with the selected," in line 6. It is unclear as to what is meant by the claimed limitations. Appropriate action is required.

Referring to claim 1. Claim 1 recites the limitations "an information reading range," in line 12. It is unclear as to whether the information reading range as claimed is referring to the sensitivity range of the sensor or the distance at which the sensor can detect information. Appropriate action is required.

Referring to claim 1. Claim 1 recites the limitations "and a transferred direction of the selected sheet and a tangential line," in line 19. It is unclear as to what is meant by the claimed limitations. Appropriate action is required.

Referring to claim 3. Claim 1 recites the limitations "surface area extends to guide *therealong* to the information reading range," in line 1. It is unclear as to what is meant by the claimed limitations. Appropriate action is required.

Claim 1 recites the limitation "the information" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,3,6-9,11,12,15,17-20 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawasaki (US 7,296,795).

Referring to claim 1. Kawasaki discloses an apparatus for handling sheets (Figure 17), comprising:

a sheet transfer member (1d; Figure 17) that is movable, and which includes a transfer surface (surface of roller 1d) for contacting a selected one of the sheets (P) and transferring the selected sheet (P),

a sheet supporting surface area (platen 10a; extending from roller 1a to roller 1c) contactable with the selected,

said sheet supporting surface area (platen 10a; extending from roller 1a to roller 1c) extending such that it contacts the sheet (P) between the transfer surface (surface of 1d) and the information reading point (between member 20 and 4), and
an information reader (including 4 and 3; Figure 17) arranged to face the selected sheet (P) and including:

an information reading range (the distance range between member 20 and 4) within which information is readable from the, selected sheet (P), and

an information reading point (a location between member 20 and 4) at which information is read, said information reading point being located within the information reading range (between member 20 and 4),

wherein as seen in a view direction perpendicular to a thickness direction (as seen in Figure 17) and a transferred direction of the selected sheet (forward direction) and a tangential line (line from the boundary point on roller 1d and contacting platen 10a), at of a boundary point of the transfer surface of the sheet transfer member from which selected sheet starts to separate from the transfer surface (see Figure 17),

extends in a side area (on one side of the imaginary line) of an imaginary straight line (line extending between rollers 1d/10c to rollers 1b/1a) passing the information reading point (between member 20 to 4) and the boundary point (boundary point of roller 1d),

wherein the tangential line intersects the sheet supporting surface area (platen 10a) as seen in the view direction to press selected sheet against the sheet supporting surface-area (see sheet P pressed against surface 10a, right side; Figure 17),

wherein the boundary point (on roller 1d) corresponds to a point at which the sheet transfer member (1d) contacts the selected sheet (P), and

wherein the boundary point (on roller 1d) and the sheet supporting surface area (platen 10a) are distant from each other in a direction perpendicular (see vertical direction between surface of roller 1d and platen 10a) to the imaginary straight line.

Referring to claim 3. Kawasaki discloses an apparatus for handling sheets (Figure 17), wherein the sheet supporting surface area (platen 10a) extends to guide therealong to the information reading range (the distance range between member 20 and 4) the selected sheet (P).

Referring to claim 6. Kawasaki discloses an apparatus for handling sheets (Figure 17), wherein the tangential line is prevented from extending parallel to the imaginary straight line (see Figure 17).

Referring to claim 1,11,12,15 and 25. Kawasaki discloses an apparatus for handling sheets (Figure 17), comprising:

a sheet transfer member being movable (1d), and having a transfer surface (surface of roller 1d) contactable with one of the sheets (P) so that the one of the sheets (P) is transferred by the sheet transfer member (1d),

a sheet supporting surface area (surface of member 4) being contactable with the one of the sheet (P) transferred by the sheet transfer member (1d), said sheet supporting surface (4) extending to be contactable with the one of the sheet (P) between the transfer surface (surface of roller 1d) and the information reading point (between member 20 and 4), and

an information reader (3; Figure 17) arranged to face to the one of the sheet (P) transferred by the sheet transfer member (1d) and having in an information reading range (range of sensor 3) including an information reading point (see position of the

sensor), in which reading range an information is securely readable from the one of the sheets (P; Figure 17),

wherein as seen in a view direction perpendicular to a thickness direction (as shown in Figure 17) of the one of the sheets (P) and a transferred direction of the one of the sheets (P) transferred by the sheet transfer member (1d), a tangential line of a boundary point of the transfer surface (surface of roller 1d) of the sheet transfer member (1d) from which boundary point the one of the sheets starts to separate away from the transfer surface extends in a side area of an imaginary straight line passing the information reading point (position of the sensor) and the boundary point,

which side area including the sheet supporting surface area (4), and

wherein the tangential line intersects the sheet supporting surface area (4) as seen in the view direction to press the one of the sheets against the sheet supporting surface area (surface of member 4).

Referring to claim 26. Information reader (3) reads information present on the sheet in the reading range.

Referring to claims 7 and 17. Kawasaki discloses an apparatus for handling sheets (Figure 17), further comprising a supplemental sheet transfer (1b) member that is movable, and which includes supplemental transfer surface (surface of member 1b) contactable with the selected sheet (P) to facilitate transfer by the supplemental sheet transfer member (1b) wherein a tangential line of the boundary point of the transfer

surface of the sheet transfer member intersects with a tangential line of a second boundary point of the supplemental transfer surface of the supplemental sheet transfer member from which the selected sheet starts to separate away from the supplemental transfer surface of the supplemental sheet transfer member as seen in a view direction perpendicular to a thickness direction and a transferred direction of the one of the selected sheet (the two tangential lines intersect below platen 10a; see Figure 17).

Referring to claims 8,18 and 19. Kawasaki discloses an apparatus for handling sheets (Figure 17), further comprising:

a supplemental sheet transfer member (1b) that is movable and which includes a supplemental transfer surface (surface of member 1b) contactable with the selected sheet to facilitate transfer by the supplemental sheet transfer member (1b), and

first (1c) and second press members (1a) respectively opposing the sheet transfer member (1d) and supplemental sheet transfer member (1b)

such that the selected sheet is pressed between the sheet transfer member (1d) and the first press member (1c) in a first press direction (forward) and between the supplemental sheet transfer member (1b) and the second press member (1a) in a second press direction,

wherein the first and second press directions intersect as seen in a view direction perpendicular to a thickness direction and a transferred direction of the selected sheet (see Figure 17).

Referring to claim 20. Kawasaki discloses an apparatus for handling sheets (Figure 17), wherein the sheet supporting surface area (4) is curved.

Referring to claim 9. Kawasaki discloses an apparatus for handling sheets (Figure 17), comprising:

- a movable sheet transfer member including a transfer surface (surface of roller 1d) for contacting a selected one of the sheets (P) and transferring the selected sheet (P),

- a sheet supporting surface area (surface of member 4) for contacting the selected sheet,

- an information reader (3; Figure 17) arranged to face the selected sheet and including:

 - an information reading range (range of sensor 3) within which information is readable from the selected sheet (P; Figure 17) and

 - an information reading point at which information is read, said information reading point being located within the information reading range (between member 20 and 4),

 - a press member (1c) opposing the sheet transfer member (1d)

 - such that the selected sheet (P) can be pressed between the sheet transfer member (1d) and the press member (1c) at a boundary point (point between 1d and 1c) in a press direction (see sheet contact point; Figure 17),

wherein an imaginary straight line passing the boundary point (point between 1d and 1c) in a direction perpendicular to the press direction intersects the sheet supporting surface area (including 10a and 4) as seen in a view direction perpendicular to a thickness direction (see Figure 17) and a transferred direction of the selected sheet, and

wherein the pressing direction is parallel to another imaginary straight passing the center of the sheet transfer member (1d) and the center of the press member (1c; line passing through the two members).

Referring to claim 27. Information reader (3) reads information present on the sheet in the reading range.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasaki in view of Henry (US 4,567,349).

Referring to claim 10. Kawasaki discloses an apparatus for handling sheets (Figure 17), comprising:

a press member (1c) opposing the sheet transfer member (1d) for pressing the selected sheet between the sheet transfer member (1d) and the press member (1c),

said press member (1c) including a press surface for contacting the selected sheet and pressing the selected sheet between the press (outer surface of member 1c) surface and the transfer surface (outer surface of member 1d).

Kawasaki does not disclose the transfer rollers comprising different compression resistance surface rigidity.

Henry discloses an apparatus comprising transfer rollers comprising different compression resistance surface rigidity (see Figure 2-5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Kawasaki to include a compression resistance surface rigidity of one of the press and transfer surfaces as being different from that of the other one of the press and transfer surfaces as taught by Henry because the rollers would provide a greater contact surface on the sheet.

Claims 14,16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasaki in view of Henry and further in view of Kako (US 2002/0060421 A1).

Referring to claims 14,16 and 21. Kawasaki in view of Henry disclose all claimed limitations of claim 14 however Kawasaki in view of Henry do not teach of information reader having a pair of input points opposed to each other.

Kako discloses a sheet handling apparatus (Figure 10) multiple information reader (304; Figure 10) input points are located on one side each other in such a manner that the input points face the side of the one of the sheet in a thickness direction of the one of the sheets to read the information through the input points.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Kawasaki in view of Henry and Kako to include information reader having a pair of input points opposed to each other because the size of the information reader can be reduced if some of the sensor readers were disposed in an opposed manner.

Claims 24 and 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Kawasaki in view Koch (US 5,809,885).

Referring to claim 24. Kawasaki discloses all claimed limitations of claim 24 however Kawasaki does not teach of a pneumatic blower for applying a pneumatic pressure to the one of the sheets.

Koch discloses a sheet handling apparatus (Figure 1) wherein the a pneumatic blower (7; Figure 1) for applying a pneumatic pressure to the one of the sheets in such

a manner that the one of the sheets is urged by the pneumatic pressure (Figure 4) to be pressed against the sheet supporting surface area(2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Kawasaki to include pneumatic blower deflecting means to provide pneumatic pressure to on of the sheets as taught by Koch because the pneumatic blower would assure the position of the sheet to be at a particular locations thus reading information would be made easier.

Referring to claim 28. Information reader (3) reads information present on the sheet in the reading range.

Response to Arguments

Applicant's arguments with respect to claim 1,3,7,8,11,12,15,17,20 and 25 have been considered but are moot in view of the new ground(s) of rejection. See new rejections above.

Applicant argues the cited reference of Kawasaki does not disclose the structure of the invention as claimed in claim 1. In view of the Office the reference of Kawasaki teaches of all elements as claimed in the claim 1. Although the claimed limitations are viewed in light of the applicant's specification the limitations for which the invention distinguishes itself over the cited reference must be included in the claimed language.

Regarding claim 1,3,7,8,11,12,15,17,20 and 25, the applicant argues the reference of Kawasaki teaches of "whether sheet materials are double fed or not" and that "Kawasaki provides no disclosure or suggestion for a structure that would enable a sheet having a straight shape to be pressed against the sheet supporting surface area by the sheet transfer member" and furthermore "Kawasaki provides a structure wherein the sheet must necessarily be curved or bent in order to be pressed against any surface."

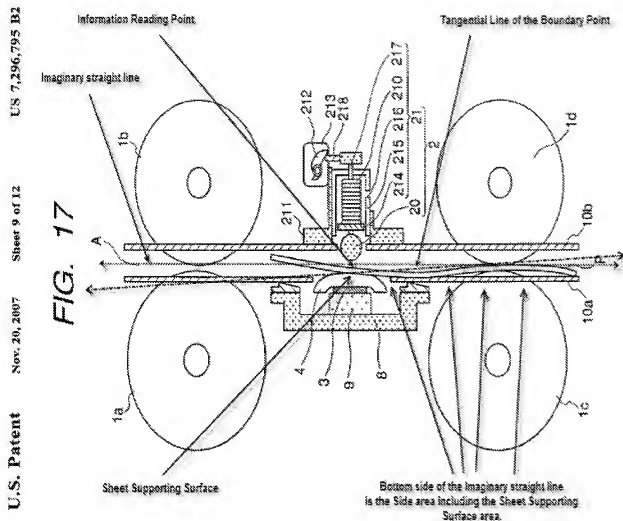
The applicant has effectively deconstructed the Kawasaki apparatus as to how the Kawasaki apparatus does not perform the same functions as the applicant's invention, however the applicant has not effectively disclosed how the limitations as recited of the applicant's claim 1 overcome the structure presented in the Kawasaki apparatus. The applicant has not disclosed which of the limitations in claim 1 the applicant believes are not taught in the prior art reference. In view of the Office the reference of Kawasaki teaches of each and every element that the applicant has recited in the claim. Furthermore, it is understood that the apparatus of Kawasaki is for handling sheets as claimed in the preamble of claim 1.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., Kawasaki provides no disclosure or suggestion for a structure that would enable a sheet having a straight shape to be pressed against the sheet supporting surface area.) are not recited in the rejected claim(s). Although the claims are interpreted in light of

the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regards to applicants arguments "when seen in a view direction that is perpendicular to the thickness direction of the sheet and the transfer direction of the sheet transfer member, a tangential line of the boundary point of the transfer surface of the sheet transfer member from which the sheet starts to separate away from the transfer surface extends in an area of an imaginary straight line passing the information reading point and the boundary point with the side area including the sheet supporting surface area. The tangential line intersects the sheet supporting surface area as seen in the view direction to press the sheet against the sheet supporting surface area." (See Figure below)

Kawasaki Figure 17



Applicant further argues "Contrary to the present invention, Kawasaki provides no disclosure or suggestion for a structure that would enable a sheet having a straight shape to be pressed against the sheet supporting surface area by the sheet transfer member when the information is read from the sheet at the information reading point in

the information reading range. Rather, Kawasaki only provides a structure wherein the sheet must necessarily be curved or bent in order to be pressed against any surface."

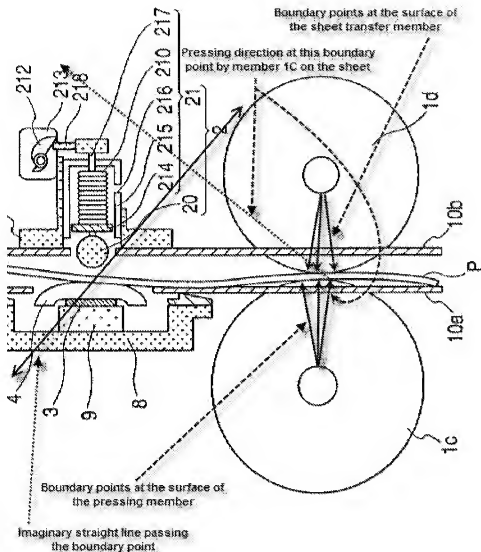
In view of the Office, the sheet prior to entering the apparatus of Kawasaki as shown Figure 17 and above is in a straight shape. However, once entering the apparatus the sheet is bent to be pressed against the sheet supporting surface, which is clearly shown in the Kawasaki Figure 17.

It is not clear whether the applicant is suggesting that the applicants invention does not bent the sheet in order to press the sheet against the sheet supporting surface. If this is such a case, the Office responds that the above limitations are not positively disclosed in claim 1, and further the Office suggests the applicant review the applicants drawing Figures 4-13 wherein the applicant shows a bent sheet in the apparatus and not a straight sheet.

Regarding claim 9 and 27, the applicant argues "as clearly illustrated in Fig. 17 of Kawasaki, an imaginary straight line passing the boundary point in the direction perpendicular to the press direction does not intersect any of the surfaces. Consequently, Kawasaki fails to disclose features recited in independent claim 9, such as: wherein an imaginary straight line passing the boundary point in a direction perpendicular to the press direction intersects the sheet supporting surface area," on page 17 of the Remarks.

It is to be noted, claim 9 is an independent claim therefore all limitations disclosed in the claims must be positively defined in the claim itself. In the instant case,

claim 9 recites "at a boundary point in a press direction" on line 13. The limitations "at a boundary point in a press direction" are not considered to be indefinite because "at a boundary point" is considered to be any boundary point disposed on the surface of either the sheet transfer member or the press member which in turn is in contact with the sheet. Similarly, "a press direction" is considered to be a different direction depending on which boundary point is selected thus the force vector applied to the transferred sheet by either the sheet transfer member or the pressing member will vary depending which of the boundary point is used that is in contact with the transferred sheet. Thus, the Office selects the boundary point in a pressing direction on the pressing member (1c) as shown in the Figure below and further wherein an imaginary straight line passing the boundary point. Note, the claimed limitations of claim 9 do not recite the imaginary straight line passing **through** the boundary point. It is in the view of the Office the limitations as recited in claim 9 are taught by the reference of Kawasaki.



Regarding claim 16, the applicant argues "While the Office Action purports to allege that the cited references disclose all the features recited in independent claim 16, no attempt has been made to identify where these references even remotely suggest such relationships. In fact, the references appear to be completely silent on any type of

mathematical relationship that could resemble the features recited in independent claim 16.

It is to be noted that although, the applicant discloses the definitions of the characters used in the relationship disclosed as $\{ J \propto (L^2/h), \text{ and } \alpha \propto \tan^{-1} (1/\mu pg) \}$. The characters in the relationship are not disclosed in the applicant's drawings. Applicants Figure 5 shows J1 and J2 as a base dimension for the triangles comprising the hypotenuse c1 and c2 and no such J dimension, L dimension or the h dimension is defined in the drawings. It is not clear as to what the relationship suggests. Furthermore, the surface friction of the rollers (1d and 1c) of Kawasaki can be selected such that the angle of the bend of the sheet exiting the roller can be adjusted to suit a specific bend of the sheet to be transferred.

Regarding claim 21, the applicant argues "the information reader includes a light emitter for projecting a light to the sheet being transferred and a light receiver for receiving the light reflected by the sheet" on page 20. The cited reference of Kawasaki discloses the sensor mechanism including element 2-4 and 9 as a distance detector such that the thickness of a double or a single sheet can be detected. Furthermore the reference of Kako teaches of multiple types of light emitting sensor and receivers.

Regarding claim 24, Rabb discloses the pneumatic blower deflects the sheet towards a sheet supporting surface (46; Rabb, Figure 1).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAKESH KUMAR whose telephone number is (571) 272-8314. The examiner can normally be reached on M-F 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Crawford can be reached on (571) 272-6911. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Gene Crawford/
Supervisory Patent Examiner, Art
Unit 3651

/RAKESH KUMAR/

Application/Control Number: 10/772,386

Page 22

Art Unit: 3651

Examiner, Art Unit 3651